CHEUK HIN (ALVIN) LI

SUMMARY

- Proven fast-learner with strong team work skills
- Proficient in **Python, Java, HTML+CSS+JS**
- Strong working knowledge in **C#, C++**, **Tensorflow, MATLAB, React, jQuery**
- Currently learning **mySQL**

EDUCATION

University of Waterloo
BASc (Biomedical Engineering) Candidate
- Relevant Course Knowledge: **C++**, **C#**, **MATLAB**

Coursera
- **TensorFlow: Data and Deployment Specialization**
- **Deep Learning Specialization**

INTERESTS

- Video-editing using After Effects and creating graphics using Photoshop
    - Designed and sold class apparel
- Volunteering (1000 hours and counting!)

✉ alvin.li1@uwaterloo.ca

github.com/alvanli

linkedin.com/in/alvin-lch

alvanli.github.io

PROJECTS

Stock Market Prediction ~ **Python Keras, Google Colab/ Jupyter Notebook**
- Attempted to predict Apple's stock market closing price using other stock data as well as news article headlines using Keras Functional API on Python
- Dealt with text data (ex. stemming, lemmatizing, onehot encoding) and time-series data (ex. detrending, using Augmented Dickey-Fuller) and predicted using ARIMA and LSTMs

Retinopathy Diagnosing Tool ~ **Python Keras, React, Firebase, AWS**
- Optimized algorithm using Bayesian Hyperparameter search and Transfer Learning on Inception V3, with an accuracy of 80% on Python Keras
- Utilized Firebase for authetication and AWS AppSync, GraphQL for storing data

Messenger Data Analysis ~ **Python, Keras (Tensorflow)**
- Applied bidirectional LSTM with attention for sentiment analysis (accuracy of 95%) and computed for the most positive person and month
- Generated text using a two-layered LSTM based on personal conversation history, parsed from JSON files

Snap/ Machine Vision Controller ~ **Python, OpenCV, Keras (Tensorflow)**
- Performed linear algebra matrix operations by extracting individual numbers from images of matrices using OpenCV and Tensorflow CNN
- Created Python GUI to collect bounding box data for training CNN to recognize hand gestures, results are then communicated to an Arduino for further actions

Chatty ~ **HTML+CSS+JS, React, Google Dialogflow**
- A Chrome extension personal assistant that simplifies data retrieval by utilizing weather, todo list and reminder widgets through a chatbot interface
- Achieved extension layout and design using HTML+CSS+JS, jQuery, ReactJS, DialogFlow

A.R.M. (Assistive Reaching Member) ~ **C++, Solidworks, Python**
- Created robotic reaching aid from scratch within two weeks using Arduino, kiCAD (for PCB manufacturing) and Solidworks
- Computed angles for servo motors using inverse kinematics, through a simple ANN

EXPERIENCE

Haptics Team Co-Lead   Sep. 2019 – Present
BioMechatronics
- Led the development of a wireless gait tracker using Arduino and **C++**
- Processed data from IMU accelerometers (MPU 6050) using **Numpy and Pandas on Python**

Research Student   Jun. 2018 – Jan 2020
Hospital for Sick Children (SickKids)
- Investigated the relationship betweeen the presence of proteins and the thickness of biofilm by analyzing images using ImageJ, Comstat2 and Volocity
- Automated analysis using **Python**, reducing time spent by 50%
- Created a lab website using Wordpress and **HTML+CSS** within 5 days

Vice President of External Affairs   Aug. 2017 – Jul. 2019
Project 5K
- Doubled volunteer opportunities by cultivating new relationships with local organizations and government bodies
- Crafted over 70 pages of graphics using Adobe Photoshop and Illustrator
- Led team of 5 to triple school outreach through in-school campaigns